

that the wall *ab* resulted in the formation of a pocket of stagnant gases. As a remedy for this condition, the author suggested the removal of the wall and the reconstruction of the furnace according to the sketch (Fig. 122).

NOTE.—Furnaces with descending skids give a great deal of trouble with billets sagging due to improper heating conditions.

Another small furnace, of a similar design, is shown in Fig. 123, in which the reconstruction recommended is shown in dotted lines. These changes were made, and the output of the furnace was thereby increased from 11.2 tonnes to 14.7 tonnes a day, that is to say, an increase in output of 30 per cent, with the same coal consumption.

As to the profile which should be given to the roof of a con-

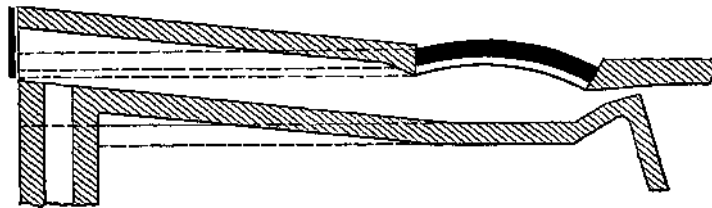


FIG. 123.

tinuous heating furnace, the following suggestions may be of service:

If the mixture of the air and the combustible gases is not sufficiently intimate in the firebox, it will be necessary to use some method of restricting and retarding the flow of the reacting gases within the port. The device frequently used is a strangulation or restriction of the port or passage through which the reacting gases enter the heating chamber. A serious disadvantage of this method is that it gives the jet of flame an exaggerated velocity. In order to absorb and reduce this velocity, two special forms of roof construction are used, which are shown in Figs. 122 and 123. If the mixing in the firebox is well accomplished, or if the gases flow into a large free space under the roof of the heating chamber

at a low velocity, these spaces will act as
a combustion chamber,
and there will be no necessity for the
strangling of the flow through
the port.

If the rear end of the roof ascends,
recourse is frequently had to